Office of the City Auditor

INVESTIGATION OF INTERNAL CONTROL WEAKNESSES
IN THE COMMUNICATIONS SERVICES SECTION
OF THE OFFICE OF MANAGEMENT SYSTEMS
AND RELATED AREAS
NOVEMBER 1990
(Report No. 9005)

Michael L. Ashcraft
City Auditor

SCOTTSDALE CITY COUNCIL

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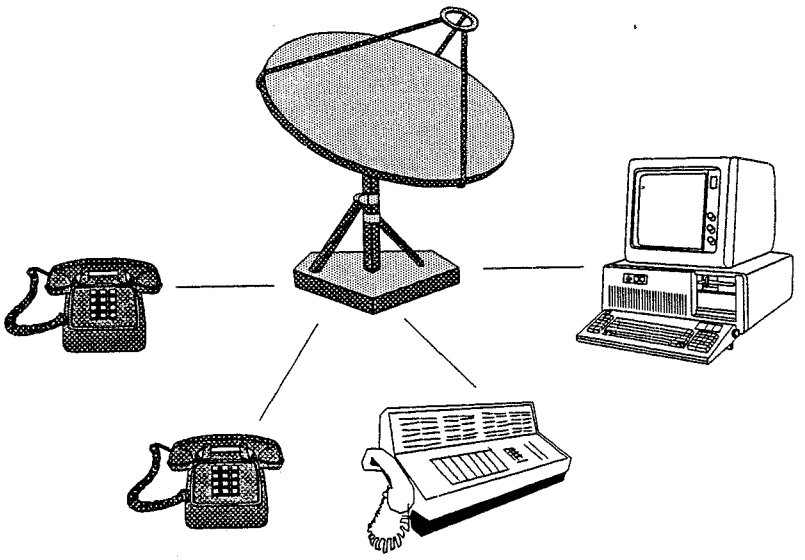

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November 14, 1990

Mayor Herbert R. Drinkwater, Members of the City Council,
and City Manager Jorge Carrasco,

Initially, this Office was asked to investigate allegations related to the theft of City property by an employee in the Communications Services Section of the Office of Management Systems. Based on this request and concerns expressed by the Management Services General Manager and the in-charge Assistant City Manager, relevant operational control practices employed by Division personnel were included in the scope of this review.

During the course of audit fieldwork, Communications Services management responded to issues relating to internal controls by immediately strengthening procedures associated with inventory and tool management as well as improving general housekeeping. Other positive actions taken by management during the course of this review are noted in the text.

The audit was conducted in accordance with Generally Accepted Governmental Audit Standards as related to administrative and operational controls, and as required by Article III Scottsdale Revised Code Section 2-117 et seq. for "Special Audits." All matters related to potential fraudulent practices were communicated to and coordinated with members of the Scottsdale Police Department. Concurrent investigations were conducted, however, Police inquiries received priority on all evidentiary matters.

Due to the nature of this audit, certain limitations were encountered and are outlined in the report. Communications Services management, as well as most other City staff, cooperated fully during the audit. Most staff responded to the seriousness of the situation both expeditiously and in a forth-right manner.

The Management Services General Manager's review and acknowledgement of this report is presented in Attachment 8. Abbreviated responses are included in the text. The following Action Plan delineates management's level of concurrence with each recommendation and an implementation timetable where appropriate.

Respectfully submitted,

Cheryl L. Barcala, CPA/CIA

P.W. (Sonny) Phillips, CISA

MLA/CLB/PWP:Gail Crawford, CPS

Approved by,

Michael L. Ashcraft, CIA

RECOMMENDATION NUMBER	DISCUSSION RELATED TO FINDINGS (Page Numbers)	MANAGEMENT RESPONSE		IMPLEMENTATION STATUS		RECOMMENDATION (POTENTIAL FINANCIAL IMPACT SUMMARY) [PRIORITY: SEE ATTACHMENT I]
		AGREE	DISAGREE	UNDERWAY	PLANNED	
1	7, 8	X		X		The Management Systems Administrator should work with the Communications Services Manager to define and classify, in writing, inventory management parameters for equipment, supplies and tools. These parameters should specify: a. the types of controls needed for each inventory item; b. the duties and responsibilities of all staff having custody of inventory; c. reorder and disposal procedures for all commodities; d. supply access procedures including the segregation of contractor and OMS work areas; e. housekeeping and recordkeeping standards including the branding of requisite inventories; and f. tool assignments and uses which includes the reporting of potential thefts to OMS management and Risk Management personnel. (Unknown. Inventory loss reduction possible.) [1]
2	9	X		X		The Management Systems Administrator should oversee the inventorying of all requisite commodities. He should: a. establish a program to re-inventory selected items annually; and b. establish realistic and measurable inventory (backup) limits to reduce unnecessary excesses. (Cost savings of at least $1,000 annually. Inventory loss reduction possible.) [1]
3	11, 12	X			+	The Management Systems Administrator should work with the Communications Services Manager to define, in writing, computer equipment inventory standards. These requirements should include procedures for adding, relocating and deleting requisite items from the work order inventory system. (Unknown. Inventory loss reduction possible.) [2]
4	12	X			+	The Management Services General Manager should develop an Administrative Regulation for City Manager signature that restricts City employee movement of requisite computer equipment without direct OMS approval. (Unknown.) [2, 3]

+ Response does not indicate when corrective action will be taken.

RECOMMENDATION NUMBER	DISCUSSION RELATED TO FINDINGS (Page Numbers)	MANAGEMENT RESPONSE		IMPLEMENTATION STATUS		RECOMMENDATION (POTENTIAL FINANCIAL IMPACT SUMMARY) [PRIORITY: SEE ATTACHMENT 1]
		AGREE	DISAGREE	UNDERWAY	PLANNED	
5	14, 15	X			+	The Management Systems Administrator should work with the Communications Services Manager to define, in writing, telephone equipment inventory and billing practices. These requirements should include procedures for adding, relocating and deleting requisite items from the work order and Call Detail Recording systems and the monthly billing reports. (Costs associated with creating needed system. Savings related to improved accountability over resources.) [2, 3]
6	14	X			+	The Management Services General Manager should develop an Administrative Regulation for City Manager signature that restricts City employee movement of telephones without direct OMS approval. (Unknown.) [2, 3]
7	16					The Management Systems Administrator should:
			X*			a. order the contractor to develop and implement a comprehensive preventive maintenance program on all covered equipment;
			X*			b. require the Communications Services Manager to monitor the status of all repairs presented to BPS technician as well as the operation of the preventive maintenance program; and
		X			+	c. review the charging system and costs associated with the contract and determine if other options may be more cost-beneficial. (E.g., rates based on work completed or some type of cost plus arrangement or the efficiency of hiring permanent staff to perform requisite chores with City provided supplies.) This analysis should be submitted to the Management and Budget Division for confirmation and consideration. (Unknown. Improved equipment maintenance practices increase operational efficiency and potential savings associated with performing work under some other arrangement possible.) [3]
8	18, 19	X	X		FY 91-92	The Management Services General Manager and the Management Systems Administrator should reconsider their qualified support of (partial opposition to) the need for a Data Administration function, including a Security Officer, as outlined in recommendation 6 through 6e of Report No. 8905 on OMS General Controls. (See Attachment 5.) (Costs related to added personnel. Savings realized through more efficient use of data and equipment, improved security and better quality control.) [2, 3]

* Management indicates some level of agreement in these recommendations but declined to take or plan action.

RECOMMENDATION NUMBER	DISCUSSION RELATED TO FINDINGS (Page Numbers)	MANAGEMENT RESPONSE		IMPLEMENTATION STATUS		RECOMMENDATION (POTENTIAL FINANCIAL IMPACT SUMMARY) [PRIORITY: SEE ATTACHMENT 1]
		AGREE	DISAGREE	UNDERWAY	PLANNED	
9	18	X	X	X		The Management Systems Administrator (in lieu of a Security Officer) should work with the Communications Services Manager to develop, in writing, a cross-training program along with system back-up and access control procedures for the Call Detail Recording and Rolm systems as needed. This should include password and ID controls, physical security, contingency testing and supervision requirements for both systems as well as an uninterruptable power supply for the Call Detail Recording system. Further, she should establish supervisory controls for as well as access (update) restrictions relative to the work order system. (Savings associated to data restoration costs.) [2]
10	19	X		1-91		The Management Systems Administrator (in lieu of a Security Officer) should work with the Communications Services Manager to: a. establish procedures for authorizing user dial-up access clearance; and b. develop and maintain an inventory of these authorized users as well as procedures for notifying them of requisite access control (password) changes. (Savings associated to data restoration costs.) [2, 3]
11	19	X			1-91	The Systems Support Manager should continue the dial-in security project until its implementation (Costs approximately $40,000; Savings realized by reducing threat of data destruction.) [Repeat of Recommendation 8 Report No. 8905] (op. cit.) [2]
12	21, 22	X	X		+	The Management Systems Administrator, working in conjunction with the Purchasing Director, should institute a program that tracks the acquisition and use of all City owned proprietary and copyrighted software. This program should include a mechanism for inventorying software periodically and reporting potential abuses to responsible managers. (This program could be incorporated in with the existing work order system employed by Communications Services.) (Inventory loss reduction possible. Copyright infringements can be up to $50,000 per incident.) [2, 3]
13	22	X		3-91		The Management Systems Administrator (in lieu of a Security Officer) should develop a program covering PC software usage in the City particularly as it relates to security issues and copyright laws. (Copyright infringement costs avoided.) [2]

RECOMMENDATION NUMBER	DISCUSSION RELATED TO FINDINGS (Page Numbers)	MANAGEMENT RESPONSE		IMPLEMENTATION STATUS		RECOMMENDATION (POTENTIAL FINANCIAL IMPACT SUMMARY) [PRIORITY: SEE ATTACHMENT 1]
		AGREE	DISAGREE	UNDERWAY	PLANNED	
14	23	X			+	The Management Systems Administrator should direct the Communications Services Manager to restructure long distance billing procedures to capture and report all requisite charges. (Costs associated with enhancing existing system. Savings related to improved accountability over resources.) [2, 3]
15	23	X	X		+	The Management Systems Administrator should direct the Communications Services Manager to develop a procedure to control the unrestricted charges associated with collect, third party, cellular connections and select long distance rotary lines. These procedures should be formally communicated to all City personnel and may need to be promulgated in the form of an Administrative Regulation. (Costs negligible. Reduction in unauthorized calls possible.) [2]
16	25, 26	X	X		+	The Management Systems Administrator should work with the Communications Services Manager to define and classify, in writing, work order management standards. These guidelines should include performance standards for tracking and reporting staff time and job assignments. (Employee efficiency improved.) [3]
17	27	X	X		+	The Management Systems Administrator, in consultation with the Management Services General Manager and the Management and Budget Division, should restructure the existing charge-back system to more accurately and fully capture the costs of service. This restructured system should be designed to encourage greater individual departmental and Communications Services accountability and control over costs and services. The Administrator should investigate establishing a similar system for controlling data communication costs. (Costs associated with restructuring system. Improved accountability over resources possible.) [3]
18	29	X		X		The Management Systems Administrator should: a. establish a written policy governing the use of OMS vehicles and communicate that policy to all affected staff; and
			X			b. institute a system which tracks the use of each vehicle and monitors their fuel consumption. (Savings related to improved accountability over resources.) [2]
19	29	X		12-90		The Police Department's Patrol Bureau Commander (Captain) should direct the Special Operations Sergeant to post authorization and restriction requirements concerning the use of vehicle fluids at the Police/Courts station. (Reduction in inventory loss possible.) [2]

INVESTIGATION OF INTERNAL CONTROL WEAKNESSES IN THE COMMUNICATIONS SERVICES SECTION OF THE OFFICE OF MANAGEMENT SYSTEMS AND RELATED AREAS

This report examines the administrative and operational practices employed by the Office of Management Services (OMS) to control the use of manpower, tools, equipment and supplies assigned to the Division's Communications Services Section. These resources are managed as part of the Section's responsibility to effectively and efficiently provide:

> ...voice and data communication to City offices by installing, servicing and repairing computer terminals and telephones. Staff plan and maintain communication services for new City facilities. They also track computer and voice equipment and administer a telephone charge-back system.
>
> (Report No. 8905 - OMS General Controls)

Other OMS activities are not included in the scope of this review unless they relate directly and specifically to the activities of personnel associated with Communications Services.

On October 16, 1990, at the direction of the City Manager's Office, OMS's Management Systems Administrator informed the City Auditor that he had reason to believe that the Telecommunications Technician in the Communications Services Section had been involved in fraudulent practices. The Administrator requested that an audit of these possible thefts begin immediately. Scottsdale Police Department personnel were asked to investigate related allegations of theft in the Section. The General Manager for Management Services and the in-charge Assistant City Manager expressed concerns relating to operational control practices associated with the allegations of theft.

City Council members were consulted as required by Ordinance. Fieldwork was completed October 31, 1990 in preparation for this report. This analysis was conducted in accordance with Generally Accepted Governmental Audit Standards as related to administrative and operational controls, and as required by Article III Scottsdale Revised Code Section 2-117 et seq. for "Special Audits." Management's comments are included after each set of report recommendations and as Attachment 8.

CONTROL STANDARDS APPLICABLE TO RESOURCE MANAGEMENT

Internal controls over resources such as manpower and inventories (e.g. tools, equipment and supplies) can be assessed relative to five General Standards and six Specific Standards.

General Standards

Reasonable Assurance: Internal control systems are to provide reasonable assurance that the objectives of the systems will be accomplished.

Supportive Attitude: Managers and employees are to maintain and demonstrate a positive and supportive attitude toward internal controls at all times.

Competent Personnel: Managers and employees are to have personal and professional integrity and are to maintain a level of competence that allows them to accomplish their assigned duties, as well as understand the importance of developing and implementing good internal controls.

Control Objectives: Internal control objectives are to be identified or developed for each agency activity and are to be logical, applicable, and reasonably complete.

Control Techniques: Internal control techniques are to be effective and efficient in accomplishing their internal control objectives.

Specific Standards

Documentation: Internal control systems and all transactions and other significant events are to be clearly documented, and the documentation is to be readily available for examination.

Recording of Transactions and Events: Transactions and other significant events are to be promptly recorded and properly classified.

Execution of Transactions and Events: Transactions and other significant events are to be authorized and executed only by persons acting within the scope of their authority.

Separation of Duties: Key duties and responsibilities in authorizing, processing, recording, and reviewing transactions should be separated among individuals.

Supervision: Qualified and continuous supervision is to be provided to ensure that internal control objectives are achieved.

Access to and Accountability for Resources: Access to resources and records is to be limited to authorized individuals, and accountability for the custody and use of resources is to be assigned and maintained. Periodic comparison shall be made of the resources with the recorded accountability to determine whether the two agree. The frequency of the comparison shall be a function of the vulnerability of the asset.

(U.S. General Accounting Office/Office of Policy - 4.1.4)

The General Accounting Office suggests that these controls are necessary for achieving the proper conduct of business. They help assure full accountability and "facilitate the achievement of management objectives by serving as checks and balances against undesired actions." (ibid.) Adequate internal controls help prevent negative consequences and thus help "achieve the positive aims of program managers." (ibid.) These standards must be assessed in terms of their costs and benefits; however, they must be actively considered and integrated into normal program practices to be effective. These standards and their relative cost-benefit are used as the primary criteria for the findings of this report. In several instances, their absence negatively affected program practices and organizational intent.

PURPOSE, SCOPE AND METHODOLOGY OF THIS AUDIT

Purpose. The purpose of this audit was to render an opinion on the utility and viability of administrative and operational controls employed by the Communications Services Section of OMS and to determine the extent to which programmatic resources (manpower and inventories) were compromised by Section personnel. This included verifying the legitimacy of operational practices, where possible, and testing appropriate management oversight mechanisms when needed.

Scope. Initially, the scope of this investigation was directed toward allegations related to the practices and behaviors of the Section's Telecommunications Technician. It soon became apparent that numerous control weaknesses existed in the Division. Consequently, the Management Services General Manager and the in-charge Assistant City Manager asked that all control weaknesses be investigated as they related to the activities and practices of the Technician and other Communications Services personnel. (See Attachment 2.)

Quick and determined action by Division management enabled City Auditor personnel to secure or retrieve nearly all primary documentation available in order to conduct a thorough investigation. All information related to suspected fraudulent activities was communicated to Police Department detectives. Audit activities were coordinated with Police investigations. Interviews were conducted with the Telecommunications Technician and other personnel as approved by the Police Department. (See Attachment 3.) Several sources asked that their anonymity be maintained due to the nature of the allegations.

Some source documentation maintained by the Telecommunications Technician was found to have been contaminated (lost, misplaced, damaged, or erased) at the

outset of this inquiry. In a few instances, back-up documentation was not available or had also been contaminated.

Methodology. This audit obtained and reviewed documentation and material related to the operation and management of the Communications Services Section. Office files maintained or controlled by the Telecommunications Technician were reviewed as required. Other Division records, as well as those for police, accounting and personnel, were examined when supplemental support was needed.

Several analytical devices were used to assess Communications Services' practices. Due to time constraints, sampling techniques were limited to a series of random, judgmental strategies. Source documentation, inventory tracking records, work orders, purchase orders and other accounting data related to the operation of the Section were used to target areas associated with any alleged fraud.

Due to the urgency associated with this matter, this report is organized using a "finding format." Each issue related to the management or control of programmatic resources is presented separately. This style allows for a more succinct presentation but requires the reader to possess more than a passing knowledge of the program(s) in question to understand fully the significance of each finding.

CITY AUDITOR OPINION

For the last several years, Communications Services has dedicated itself to achieving a high level of "customer service." Even though specific measurement systems are not available to assess the success of these efforts, Division managers believe their efforts positively impact customer satisfaction. However, based on tests conducted, specific and wide-ranging internal control weaknesses were found in program areas assigned to this work unit. Reasonable, concurrent controls over programmatic resources were found to be inadequate in many areas contributing to the ability of the Telecommunications Technician and other individuals to use City resources without adequate guidance or clearly defined rules. These weaknesses were found to be well-established, dating back to at least 1988. Confirmed equipment discrepancies were first reported to Division management in early 1990.

Resource management practices under the auspices of Communications Services were not specifically delineated or adequately promulgated. Written policies and procedures were all but nonexistent. Custom allowed employees to assume a wide array of practices and behaviors that included personal discretion (uncontrolled) over the use of City equipment, the potential theft of City inventories and

supplies, and, in one case, the acknowledged destruction of City property. Division managers were either unaware of these activities or unwilling to question these practices.

In other cases, Division supervision was found to be weak. Some records were maintained; however, they were seldom used as active oversight (control) tools. Work order and charge-back systems were employed but not fully utilized. Incompatible duties involving recordkeeping and operational control over resources were not routinely reviewed or segregated. Housekeeping responsibilities over inventories were weak.

FINDINGS

FINDING A:

INADEQUATE CONTROLS OVER TOOLS, EQUIPMENT AND SUPPLIES PERVASIVE; EMPLOYEE ABUSES REPORTED

Even though Communications Services personnel manage hundreds of thousands of dollars worth of equipment, supplies and tools each year, control procedures were found to be inadequate. Established, written guidelines governing the use, abuse and maintenance of any of these resources did not exist. Employees were accustomed to being allowed free access to tools for personal use. Basic housekeeping was lax and inventory excesses were evidenced. Employee allegations of theft and willful destruction of City property were noted.

Prior to the allegations of fraud, Communications Services inventories and tools were "stored" in several locations throughout the City including the Division's two vehicles. (See Attachment 4.) In the last few months, Section personnel had attempted to centralize most of these inventories in a number of storage areas within the Center for the Arts. Progress was slowed by other service demands.

Weaknesses or discrepancies investigated during the course of this audit included:

Equipment Excesses

Equipment re-order and disposal practices were found to be less than adequate based on an analysis of seven commonly used items.

Inventory counts of single and multi-line "brown" phones were found to be substantial. Field tests recorded 91 instruments "in stock" with costs ranging from $25 to $150. Most of these phones had not been refurbished. Procedures for refurbishing or scraping these instruments had not been developed. Staff indicated that this excess was needed because "they might be used sometime." A review of Division purchase orders noted recent purchases of 20 new brown phones which were then added to existing stock.

Similar excesses were noted when modems (12), line-driver communication boxes (18), cables (dozens), PC pedestals (13) and PC/printer interfaces (135) were tested. Interface inventory counts were intentional. They were based on staff's desire to protect the utility of existing (non-PC) printers so that they could be used with PCs being bought by the City. By most estimates, this supply covers inventory demands for at least 15 years. All of the modems and line-drivers needed repair. Staff indicated that they did not believe such repairs would be cost-effective.

Finally, Communications Services held 7 new and 28 used impact printers (model No. 431) in stock to act as replacements if any of the

237 printers in service needed repair. This excess was maintained even though only about 10 failures are reported a month. Under the contract, the City pays an additional service cost to Business Product Services, Inc. (BPS) for the used printers. (BPS is the firm responsible for repairing all City microcomputers and related equipment.) This company is required to maintain a service standard stating that all necessary repairs will be performed within 24 hours. The City's excess inventory provides BPS with a substantial cushion in meeting this requirement at an additional and unnecessary cost to the City of over $100 a month.

Staff assert that many of these items are maintained to expedite the efficient delivery of services. Further, they state that most of the excess inventory consists of items that are unrepairable or otherwise have little or no salvage value. Staff recognized that as excess inventory ages, its salvage value decreases; and, as it accumulates, its space demands expand, yet no program of purging excesses exists.

Communications Services staff did maintain a reasonable supply of multi-line "white" phones for service calls. Existing stocks were limited to two new and two used instruments each costing $600.

Supply Controls

Communications Services staff use dozens of component and incidental items to maintain both voice and data communication devices. Prior to this investigation, their storage and use were not monitored. Poor housekeeping practices allowed them to accumulate in various locations in the City. Access was open to anyone entering work or service areas. Many components were allowed to stay in Division vehicles for extended periods of time exposing them to excessive amounts of dirt and heat.

The on-site technician for BPS shares his work area with City technicians. Supply (part and tool) segregation is based on verbal understandings. Physical access is not restricted in any fashion.

Tool Management

Managers in the Fleet Management Division require mechanics to furnish their own base set of tools which are periodically inventoried by supervisors. Written procedures provide for the replacement of lost or broken items. All City owned tools are controlled by parts room personnel who "check-out" equipment as needed. Off-site transport or use of these tools is strictly forbidden.

Communications Services staff tools are purchased by the City. All items are traded and used freely by staff. Section management routinely allow staff to use many of these tools for personal, off-site purposes. In some instances, staff admitted borrowing items without prior approval and Section management admitted to not questioning their use when "unapproved" borrowing was discovered. Inventory records for tools owned by the Division did not exist as such.

To test the status of these items, 20 tools purchased within the last five years were selected at random for analysis. By the close of audit fieldwork, four items (valued at $832) could not be located. Section management indicated that two of these items had been stolen. The location of the other two items was unknown. (After the close of audit fieldwork, Section management reported that one of these items had been located.)

Two other items, not included in the sample, were said to have been stolen. During the course of this audit, two OMS employees admitted to having knowledge about the unauthorized removal of one of these items and to having lied about its status when questioned by their supervisors. The Telecommunications Technician eventually confessed that he willfully destroyed the item in an attempt to cover up his involvement in the theft.

Of the four stolen items, only a $5,000 data probe was on file with the Risk Management Division as having been reported as missing.

Allegations of theft concerning equipment, supplies and tools could not be substantiated in part because Section inventory control practices were weak and records were not maintained. Many managers recognize the temptation that these types of items often create. To combat this potential problem, Fleet Management managers have instituted a practical control mechanism. They brand virtually all tools and many equipment components (e.g. tires) to dissuade individuals from absconding with City property.

Similar practices would benefit Communications Services in not only preventing wanton thefts but in controlling equipment. The Section's Manager indicated that they have had a long standing problem with other City personnel borrowing OMS's equipment such as surge protectors. City staff move these devices owned by OMS as needed rather than purchasing their own.

Since the emergence of the fraud allegations, Section managers have worked feverishly to organize the inventories delineated in this finding. Work was not complete by the close of audit fieldwork, but housekeeping improvements were witnessed. (On December 11, 1990, the Management Services General Manager asked that three documents related to actions taken by OMS be incorporated in the report. They are included as Attachment 9.)

RECOMMENDATION(S)

1. The Management Systems Administrator should work with the Communications Services Manager to define and classify, in writing, inventory management parameters for equipment, supplies and tools. These parameters should specify:

   a. the types of controls needed for each inventory item;

   b. the duties and responsibilities of all staff having custody of inventory;

   c. reorder and disposal procedures for all commodities;

   d. supply access procedures including the segregation of contractor and OMS work areas;

   e. housekeeping and recordkeeping standards including the branding of requisite inventories; and,

   f. tool assignments and uses which includes the reporting of potential thefts to OMS management and Risk Management personnel.

2. The Management Systems Administrator should oversee the inventorying of all requisite commodities. He should:

   a. establish a program to re-inventory selected items annually; and,

   b. establish realistic and measurable inventory (backup) limits to reduce unnecessary excesses.

ABBREVIATED RESPONSE(S)

1. Management generally agrees stating, "such parameters are needed for specific areas." (See Attachment 8.)

2. Management generally agrees stating, "OMS already conducts an annual physical inventory of computer terminal and printer assets valued at $3,900,000. Management agrees the inventory of telephones should be improved. Telephones will be included in the automated inventory system. Management agrees that commodities should be physically inventoried on a periodic basis ...." (See Attachment 8.)

FINDING B:

INVENTORY CONTROLS OVER DATA COMMUNICATION (COMPUTER) EQUIPMENT INADEQUATE; DISCREPANCIES PREVALENT

Computer equipment inventory controls were analyzed during the course of this investigation because of allegations made by certain individuals as well as because of concerns expressed in Finding (C) of Report No. 8801 (Perquisite Management Practices) which stated that then existing "... inventory accounting procedures cannot ensure adequate safeguarding of (computer equipment)." That report recommended that the Management Systems Administrator should "complete an item-by-item inventory of all computer related equipment located off City property." After the close of that audit's fieldwork, the Administrator indicated that all inventory records had been updated; however, that assertion was not verified.

Even though individual departments purchase all of their own data communication (computer) equipment, OMS assumes maintenance responsibility for the entire City. Division staff actively participate in reviewing purchase requests, installing new equipment and removing faulty equipment for repair by BPS. If equipment upgrades are requested, the departments must fund the acquisition. However, OMS will exchange department owned items with other available stocks of comparable equipment to maintain service levels. Consequently, actual control over the location and placement of this resource tends to migrate toward OMS as a central repository of information and away from individual departmental users.

The Communications Services work order system acts as the control instrument for tracking computer equipment. It is tied directly to an inventory management program designed to record the installation and movement of monitors, central processing units (CPUs) and printers. No other components are tracked and audit testing revealed that requisite items were not recorded adequately.

During this investigation, three cost centers [Water Resources Administration, Financial Services Administration and Eldorado Park (South Parks Maintenance and Sports and Aquatics)] were selected at random in an attempt to verify the utility of this tracking mechanism.

Of the 18 workstations recorded at these centers, the following discrepancies were noted:

1) Two printers listed on the inventory could not be located.

2) Three printers were found but were not entered on the appropriate cost center lists.

3) Three PC workstations were found but were not entered on the appropriate cost center lists (one was later confirmed as being charged to a different cost center).

4) One UTS listed on the inventory could not be located. (It had apparently been replaced by a PC which was not listed on the cost center's inventory.)

5) One printer and one monitor had not been tagged by OMS personnel in order to indicate that they were part of the Section's inventory system.

Written guidelines governing inventory standards and practices have not been developed. Other critical and common components such as key boards, print sharing devices, hard drives and memory chips are not tracked. Current practices allow technicians to move or remove these items with virtual anonymity. Formal guidelines governing the movement of this equipment by staff outside of OMS have not been developed; although, most City staff appear to rely on Communications Services technicians for such efforts.

Systematic efforts to confirm existing inventory records are not performed on a routine basis. Earlier this year, the Solution Center Specialist attempted to re-inventory PC hardware along with software as part of the Division's development of a 5-year plan. Those efforts were found to be incomplete and were eventually disregarded by Division managers.

RECOMMENDATION(S)

3. The Management Systems Administrator should work with the Communications Services Manager to define, in writing, computer equipment inventory standards. These requirements should include procedures for adding, relocating and deleting requisite items from the work order inventory system.

4. The Management Services General Manager should develop an Administrative Regulation for City Manager signature that restricts City employee movement of requisite computer equipment without direct OMS approval.

ABBREVIATED RESPONSE(S)

3. Management generally agrees stating, "Procedures for adding, relocating, and deleting items from the work order inventory system already exist, yet they are not documented in writing." (See Attachment 8.)

4. Management generally agrees stating, "such an administrative policy would contribute to increased management over inventory movement and reduce the potential for equipment damage." (See Attachment 8.)

FINDING C:

INVENTORY CONTROLS OVER VOICE COMMUNICATION (TELEPHONE) EQUIPMENT CAN BE IMPROVED

OMS staff attempt to monitor the placement of voice communication (telephone) equipment via a monthly "base rate" billing report (titled "Basic Telephone Sets") which lists the cost center and the number of instruments. Additions or deletions to this list are based on informal "memos" from technicians to an OMS secretary responsible for maintaining requisite information. Each month the updated list is forwarded to Financial Services staff who prepare an accounting entry that charges user departments and credits OMS accounts.

In an attempt to ascertain the accuracy of the monthly billings, the three sampled cost centers were tested. Several operational weaknesses were noted:

1. One cost center was being billed for only nine phones even though thirteen instruments were in use. The individual responsible for reviewing the charges for the cost center indicated that since the charges were $212 a month less than projected, he had no motivation to report the discrepancy.

2. Billing reports are structured by individual departments based on cost centers. Instrument inventory tracking is not done on a location basis making it impossible for Communications Services staff to know the number of phones in a facility short of doing an on-site physical inventory. (E.g., All Parks Maintenance phones are billed to one cost center. Currently, staff cannot identify which phone at which park is included in this cost center except by physically inspecting each phone and comparing its number to the assigned station phone number.)

3. Monthly charges (Basic Telephone Sets report) are not forwarded to or reviewed by responsible managers. Consequently, inaccurate or inappropriate charges are not policed.

4. Citywide directives prohibiting the movement of analog and digital equipment by non-authorized personnel have not been promulgated. (When these equipment types are swapped, analog electric impulses can destroy digital receivers.)

The existing telephone tracking system (Call Detail Recording) which is used to capture information on long distance calls by cost center can assist in monitoring the physical location of phones. This system allows a station name to be assigned to each phone number; however, most of these stations are not named showing only "unassigned" as a descriptor. (Use of this or other available fields to indicate the physical location of equipment and the periodic

inventorying of instruments would help ensure that the monthly base rate billings are kept accurate.)

RECOMMENDATION(S)

5. The Management Systems Administrator should work with the Communications Services Manager to define, in writing, telephone equipment inventory and billing practices. These requirements should include procedures for adding, relocating and deleting requisite items from the work order and Call Detail Recording systems and the monthly billing reports.

6. The Management Services General Manager should develop an Administrative Regulation for City Manager signature that restricts City employee movement of telephones without direct OMS approval.

ABBREVIATED RESPONSE(S)

5. Management generally agrees stating, "the telephone inventory should be added to the present inventory and work order system, and the present system should be documented. Management further believes the procedures for telephone reporting on the Call Detail Report should be modified." (See Attachment 8.)

6. Management generally agrees stating, "such an administrative policy would contribute to increased management over inventory movement and reduce the potential for equipment damage." (See Attachment 8.)

FINDING D:

MAINTENANCE CONTRACT COSTS QUESTIONED

In December 1989, the City Council approved the contract with BPS which provided for preventive maintenance, repairs and all parts, labor, and an on-site technician for unlimited service needs. Repairs are required to be performed within 24 hours at the company's expense. Originally, 1,663 pieces of microcomputer equipment were covered at a total cost of $7,904.50 a month. By July 1990, the coverage had been expanded to 1,746 pieces of equipment for a total of $9,769.75 a month. The intent of this agreement was to provide a needed service to the City at a reasonable rate. However, based on an analysis of the 292 assignments completed between February and September, the cost of this service averages more than $200 per repair. The on-site technician estimated that between 40 and 50 percent of these "repairs" required only adjustments or component cleaning. He went on to say that, if the City had adequate policies regarding the consumption of food and beverages around computer equipment, some of these repairs would not be necessary. Plastic keyboard covers might help prevent food damage as well as damage caused by paper clips and other foreign matter. He was unsure as to how practical such covers might be in some work areas.

To date, BPS has limited the scope of its work to addressing repair requests because no one from OMS has demanded that a preventive maintenance program be implemented even though it is required by the contract. BPS has established similar "proactive" programs for other organizations. The on-site technician estimates that up to 20 percent of all reported printer failures could be avoided under an adequate (proactive) preventive maintenance program.

Since contract expenses are based on a flat monthly fee, OMS managers do not monitor the work efforts of BPS except to verify that repairs are progressing. The types of repairs needed and performed are tracked informally by the on-site BPS technician in a personal notebook. These records are not shared with OMS staff because no one has ever asked for reports or information on repairs.

At the current rate, the annual cost of the contract equals $117,237. By comparison, the cost of an average computer work station with printer runs less than $5,000. The estimated annual salary for an adequately trained on-site technician to perform repairs ranges between $30,000 and $40,000.

RECOMMENDATION(S)

7. The Management Systems Administrator should:

   a. order the contractor to develop and implement a comprehensive preventive maintenance program on all covered equipment;

   b. require the Communications Services Manager to monitor the status of all repairs presented to BPS technician as well as the operation of the preventive maintenance program; and

   c. review the charging system and costs associated with the contract and determine if other options may be more cost-beneficial. (E.g., rates based on work completed or some type of cost plus arrangement or the efficiency of hiring permanent staff to perform requisite chores with City provided supplies.) This analysis should be submitted to the Management and Budget Division for confirmation and consideration.

ABBREVIATED RESPONSE(S)

7. a. Management agrees that preventive maintenance is important but disagrees with the finding by stating, "preventive maintenance is performed on all units that are brought to the service center for repair." (See Attachment 8.)

   b. Management states agreement but does not respond accordingly. No actions were taken or planned. (See Attachment 8.)

   c. Management generally agrees stating, "Such an analysis was performed in 1989 which led to the contract with BPS and the resultant annual savings of approximately $231,000." (See Attachment 8.)

CITY AUDITOR COMMENT(S)

7. a. The Contract specifically requires BPS to provide preventive maintenance as recommended by the original manufacturer's Preventive Maintenance Schedule. Concurrent maintenance is performed only when a piece of equipment malfunctions. Proactive (preventive) maintenance does not occur.

FINDING E:

SELECTED COMPUTER ACCESS AND BACKUP CONTROLS CAN BE IMPROVED; DATA INTEGRITY COMPROMISED

Computer access controls were investigated because of allegations made during the course of this review and because of concerns expressed in findings presented in Report No. 8905 (OMS General Controls). That report stated that a viable data administration function which included a "Security Officer" was needed to help ensure that adequate controls over information processing activities be developed and maintained. Two of the three systems that were routinely accessed by the Telecommunications Technician were found to be lacking adequate controls. Requisite backup data on the Call Detail Recording system which tracks the use of long distance calls in the City was damaged to the point that, in two cases, it could not be read by the PC or, for one critical time period, was "lost." The Rolm telephone system had password and ID access controls; however, they were not enforced. Finally, controls over the Section's work order system were secured using standard Mapper based procedures even though personnel access was found to be excessive.

Since October 1988, Call Detail Reporting system files have been scheduled for routine, monthly backup. These files are stored in the office area next to the system itself along with all system documentation. Except for locking the door, the system and its files and documentation are not secured. The PC's hard drive is used to backup call information once every four hours; however, when the system is being used for other purposes, backup efforts can be delayed. If the system were to fail for any reason before it is backed up, then documentation (data) related to calls would be lost. (The system is not equipped with an "uninterruptable power supply.) No written standards governing the management of either files existed and no management supervision of the system was evidenced.

With the departure of the Telecommunications Technician, the Section's Manager was unable to access the data because she had no cross-training on affected systems. Further, back-up records and procedures had not been tested. As a result of this inquiry, these procedures have been developed and record tests (with the noted exceptions) have been performed.

The Rolm system is designed to restrict access and to provide adequate controls through the use of passwords and individual ID's. Even though the system is designed to provide limited (or leveled) access depending on a user's

need, all Communications Services personnel shared their ID's and passwords. Access sharing was uncontrolled to the extent that Section management was not sure if passwords had ever been changed. Potentially, anyone who ever had access to the system could still have had access until this investigation. Corrective actions were taken.

The access afforded the equipment manufacturer's engineer charged with updating the system's software is not controlled by the City. This access is needed to perform required system enhancements; however, when access control issues were raised with the vendor about two years ago, the Communications Services Manager was initially told that a password change was not possible unless "required" by the City. Because of the nature of this investigation, the Communications Services Manager persuaded the vendor to make the necessary access control changes.

Further, an inventory of who needed to be notified when phone access numbers needed to be changed had not been developed until this investigation. OMS management did not monitor who had control of available phone lines except through certain departmental managers. Notification procedures had not been formalized. (Additional dial-up security improvements are currently being pursued by OMS management and are being monitored by City Auditor personnel.)

Data restoration procedures are further complicated because the system's transaction file is not large enough to save all software changes at once. This file rolls over on to itself thus potentially eliminating data before a new back-up is executed. If a disk ever failed to run properly, previous system changes would be lost.

To protect system changes performed on-site, the Communications Specialist backs up affected software files that he manipulates as a matter of routine. This task is performed to protect data and to assist in file reconstruction in case of system failure. It is a good control and it is supposedly adhered to by all staff; however, it has not been formally developed in writing by the Division.

The work order system is protected by the same general controls established by the Division for all Mapper programs including off-site storage of software files and documentation. System additions are open to Section staff and other Division personnel who answer customer complaints on the City's computer "Helpline." Work order controls are weakened because the technicians who are responsible for providing the service can create, perform and dismiss their own work assignments if supervisory review is not adequate.

RECOMMENDATION(S)

8. The Management Services General Manager and the Management Systems Administrator should reconsider their qualified support of (partial opposition to) the need for a Data Administration function, including a Security Officer, as outlined in recommendation 6 through 6e of Report No. 8905 on OMS General Controls. (See Attachment 5.)

9. The Management Systems Administrator (in lieu of a Security Officer) should work with the Communications Services Manager to develop, in writing, a cross-training program along with system back-up and access control procedures for the Call Detail Recording and Rolm systems as needed. This should include password and ID controls, physical security, contingency testing and supervision requirements for both systems as well as an uninterruptable power supply for the Call Detail Recording system. Further, she should establish supervisory controls for as well as access (update) restrictions relative to the work order system.

10. The Management Systems Administrator (in lieu of a Security Officer) should work with the Communications Services Manager to:

    a. establish procedures for authorizing user dial-up access clearance; and

    b. develop and maintain an inventory of these authorized users as well as procedures for notifying them of requisite access control (password) changes.

11. The Systems Support Manager should continue the dial-in security project until its implementation (Costs approximately $40,000. Savings realized by reducing threat of data destruction.)

[Repeat of Recommendation 8 Report No. 8905]

ABBREVIATED RESPONSE(S)

8. Management generally agrees stating, "a data administration function would be an important component of an office automation system of the size and complexity of the City ...." (See Attachment 8.)

9. Management generally agrees stating, "Cross training is done continuously. Given the limited number of employees involved in this area (3), written procedures are less useful than good communications." (See Attachment 8.)

10. Management generally agrees stating, "such procedures and inventories are a requirement of the effective installation of the Dial-in Security System...." (See Attachment 8.)

11. Management agrees. (See Attachment 8.)

FINDING F:

MICROCOMPUTER SOFTWARE CONTROLS INADEQUATE

In addition to concerns expressed in Report No. 8905 (OMS General Controls), allegations made during the course of this review highlighted a number of control weaknesses related to the use and distribution of software. The Telecommunications Technician reported to Police and City Auditor personnel that he had taken a number of diskettes containing propriety and other, copyrighted, data for his personal use. These actions were made possible because controls governing the use of software are virtually non-existent in the City beyond the demands of managers in individual work groups.

Prior to July 1989, OMS staff exercised some control over the acquisition of software; however, since then, even though Division concurrence is mandated by the City's budget guide, the Purchasing Director indicated that some software has been obtained without "approval" because it is understood that it will be supported by OMS. The current procedures are not intended to control software acquisitions beyond assuring that only certain types of approved-for-support packages are obtained by the City. Inventory tagging or serial number tracking practices are not considered a part of the acquisition process.

Controls over the use of most software are left to the discretion of individual departmental managers. As with computer equipment, control concerns tend to migrate toward OMS as a central repository of information since Division staff routinely move equipment and software between locations to meet perceived service needs. In early 1990, the Solution Center Specialist attempted to inventory software as part of the Division's development of a 5-year plan. This inventory effort disclosed no copyright concerns and was eventually discarded by OMS management. (Audit testing covering 13 PCs in the sampled cost centers found that his inventory efforts understated the actual number of software packages in use by 40 percent.)

The Specialist indicated that he did not believe it was his (or OMS's) responsibility to police software abuses even though he suggested that he does routinely inform individuals of suspected copyright issues. He does act as a clearinghouse for most departmental users when software is installed and tested by providing diagnostic and repair services Citywide. His efforts are not formally tracked by the Division.

Audit testing of the 13 PCs included in the sample discovered 15 potential copyright violations. Verification was hampered because documentation supporting the acquisition of these packages could not be located in most cases. Users indicated that they did not track these purchases and were unaware of any copyright related requirements. In several instances, software examined as part of this analysis had been provided to users by OMS staff from other locations in the City.

OMS personnel recognize this control weakness and indicated that they had discussed adding a component to the work order system that would track City owned software. Progress has been slowed by other service demands.

Generally, physical access controls over software and associated manuals was found to be lax. Evidence of system locks and/or office locks for locations with computer software was not prevalent. Policies governing employee duties and responsibilities over software, as suggested in Report No. 8905 Recommendations 1 and 2 (See Attachment 6), are pending approval.

RECOMMENDATION(S)

12. The Management Systems Administrator, working in conjunction with the Purchasing Director, should institute a program that tracks the acquisition and use of all City owned proprietary and copyrighted software. This program should include a mechanism for inventorying software periodically and reporting potential abuses to responsible managers. (This program could be incorporated in with the existing work order system employed by Communications Services.)

13. The Management Systems Administrator (in lieu of a Security Officer) should develop a program covering PC software usage in the City particularly as it relates to security issues and copyright laws.

ABBREVIATED RESPONSE(S)

12. Management generally agrees stating, "that software acquisitions should be tracked and maintained in an inventory system." (See Attachment 8.)

13. Management agrees. (See Attachment 8.)

FINDING G:

CONTROLS OVER LONG DISTANCE CHARGES CAN BE IMPROVED; ABUSES POSSIBLE

Management expressed concerns related to controls over and potential abuses associated with long distance phone access available to the Telecommunications Technician and others in the Division. A limited number of phone lines were reviewed in an attempt to identify potential discrepancies between April and September 1990. No reasonable conclusions could be drawn because procedures and documentation relevant to long distance charges were found to be inconsistent, incomplete or vague.

The Call Detail Recording system captures information on all long distance charges dialed directly from City phones; however, collect, third party and cellular connections not tied to Rolm are not tracked. Long distance charges placed through one of four "rotary" lines are tracked but their costs are not reported. Consequently, calls made using any of these avenues are never seen directly by responsible managers even though they are paid by individual departmental budgets through the City accounting system.

In addition to the control weaknesses already outlined, these "hidden" charge procedures can enable unscrupulous users to place calls with virtual impunity. Controls are available through long distance providers which would restrict the ability of individuals to make calls charged to some or all City numbers without the prior approval of someone at the City. Controlled telephone credit card assignments could also be implemented.

Section management indicated that such controls needed further study fearing their impact on service delivery. Proceduring over the acceptance of collect calls are left to individual managers as a further service delivery enhancement. Third party calls are not tracked or monitored at all.

RECOMMENDATION(S)

14. The Management Systems Administrator should direct the Communications Services Manager to restructure long distance billing procedures to capture and report all requisite charges.

15. The Management Systems Administrator should direct the Communications Services Manager to develop a procedure to control the unrestricted charges associated with collect, third party, cellular connections and select long distance rotary lines. These procedures should be formally communicated to all City personnel and may need to be promulgated in the form of an Administrative Regulation.

ABBREVIATED RESPONSE(S)

14. Management generally agrees stating, "the two separate systems can be restructured to be combined into a single system making additional information available to Division managers and directors." (See Attachment 8.)

15. Management generally agrees stating, "a procedure needs to be developed to ensure Division managers and directors are apprised of collect and third party calls charged to their cost centers." (See Attachment 8.)

FINDING H:

STAFF PERFORMANCE AND SCHEDULING STANDARDS CAN BE IMPROVED; WORK ORDER MONITORING LIMITED

In 1988, Division management initiated the work order tracking system to monitor the number and status of service requests. This system allowed Division supervisors to ascertain staff compliance with the stated goal of responding to all service requests within 24 hours. The Communications Services Manager indicated that as long as response times stayed within this parameter and customer complaints were minimal, this work standard was sufficient and tracking individual technician time was unnecessary.

Between April and September 1990, staff completed 1,277 work orders split between seven gross categories:

Data Installations	107
Data Moves	148
Data Service	603
Voice Installations	73
Voice Moves	21
Voice Service	287
Other	38
Total	1,277

Regardless of complexity or the number of people involved, each assignment was counted as one activity on the system. Consequently, changing toner in a printer received the same reporting weight as installing a new PC workstation; switching a software circuit on the Rolm telephone system was measured the same as rewiring a facility. Salient efforts to coordinate staff travel to Corporation Yard and other outlying facilities were limited. Non-emergency requests for service were not scheduled in a manner designed to minimize unnecessary travel time.

Even though the system tracks the staff person assigned to each work order, it does not monitor who actually performs the work or how long it takes. Based on existing staff levels for the six month period analyzed, each technician "completed" 3.4 work orders per day.

In many service industries, work standards for specific assignments or tasks are used to judge technician performance. Fleet Management staff are required to report not only their actual time on an assignment but also the parts and supplies used. This information is used not only to judge individual performance but to monitor staffing levels and budget requirements as well as determine rental rates for all City vehicles the coming year. The existing system employed

by Communications Services does neither, making budgetary decisions and staffing determinations and controls more haphazard.

RECOMMENDATION(S)

16. The Management Systems Administrator should work with the Communications Services Manager to define and classify, in writing, work order management standards. These guidelines should include performance standards for tracking and reporting staff time and job assignments.

ABBREVIATED RESPONSE(S)

16. Management generally agrees stating, "it would be helpful to track work order assignments and the time taken on each work order." (See Attachment 8.)

FINDING I:

TELEPHONE CHARGE-BACK SYSTEM MISNOMER; ACCOUNTABILITY UNDERMINED

Division management claims to administer a telephone charge-back system designed to cover the cost of service. Implied in this arrangement is a mechanism that individual managers in the City can monitor and control their telephone costs thus improving operational efficiency. Except for some long distance charges, actual expenses are not recorded and reported to responsible managers. Consequently, potential accountability controls are effectively eliminated. Except for some shared line costs between City facilities, data communication expenses are not included in the charge-back arrangement.

All in-house repair, installation and supply expenses associated with voice communications are paid for out of Communications Services operating accounts. Division management does not attempt to monitor the Section's total service costs. (See Attachment 7.) A per phone fee is charged directly to individual departmental accounts to underwrite the cost of the City's Rolm telephone system and leased communication lines. As of October, this telephone clearing account had a credit balance of $246,000 and had been averaging a net increase of $10,000 per month since August. Managers cannot impact the extent of this fee except by adding or deleting phones.

The existing system is relatively easy to administer because actual maintenance costs are not tracked and billed. However, since these costs are not reported, customers (users) do not always consider their actions relative to equipment and services. Reported instances of abuse would probably be considered more thoroughly if managers were billed directly for such things as equipment damage by their subordinates.

Maintenance costs would be reduced if managers were motivated to encourage staff to clean and protect equipment subjected to "accidents" or neglect. Further, customers would be motivated to verify that service charges reported by Communications Services staff were complete and accurate (as requested). The costs of a true charge-back system could then be compared to services provided by outside vendors to ensure competitiveness (efficiency).

RECOMMENDATION(S)

17. The Management Systems Administrator, in consultation with the Management Services General Manager and the Management and Budget Division, should restructure the existing charge-back system to more accurately and fully capture the costs of service. This restructured system should be designed to encourage greater individual departmental and Communications Services accountability and control over costs and services. The Administrator should investigate establishing a similar system for controlling data communication costs.

ABBREVIATED RESPONSE(S)

17. Management generally agrees stating, "that such controls and charge-back accommodations should be established as such direction is given by senior City management." (See Attachment 8.)

FINDING J:

CONTROLS OVER OMS VEHICLE USE CAN BE IMPROVED; FLUID SUPPLIES EXPOSED

Communications Services personnel routinely use two vehicles to transport equipment used to perform requisite duties at various City facilities. Because average monthly mileage of the vehicles is relatively low, staff are not encouraged to keep any type of records regarding their use. Fleet Management staff track mileage and fuel consumption, but those reports are not shared with OMS managers. Further, beyond standard Citywide safety and accident reporting practices, Division management has not established any formal policies delineating the appropriate use of vehicles. During the course of this investigation, no specific abuses were confirmed. However, allegations of pilfering by OMS staff were noted.

Prior to September 1990, Police administrators paid to stock a fuel service station behind the Police/Courts Building with individual containers of oil and antifreeze. Both of these fluids were openly available to expedite their use by officers. Police and Fleet Management staff began to question the inordinately high use of these fluids by other City department staff. To control this use, oil and antifreeze containers were moved to a secured area.

The improved procedures should help control non-Police Department use of these fluids. However, no specific use limitations are currently posted other than signs indicating that the area is restricted to authorized vehicles only.

RECOMMENDATION(S)

18. The Management Systems Administrator should:

    a. establish a written policy governing the use of OMS vehicles and communicate that policy to all affected staff; and

    b. institute a system which tracks the use of each vehicle and monitors their fuel consumption.

19. The Police Department's Patrol Bureau Commander (Captain) should direct the Special Operations Sergeant to post authorization and restriction requirements concerning the use of vehicle fluids at the Police/Courts station.

ABBREVIATED RESPONSE(S)

18. a. Management agrees. (See Attachment 8.)

    b. Management disagrees stating that, "there appears to be no current justification to impose controls beyond those that now exist. (See Attachment 8.)

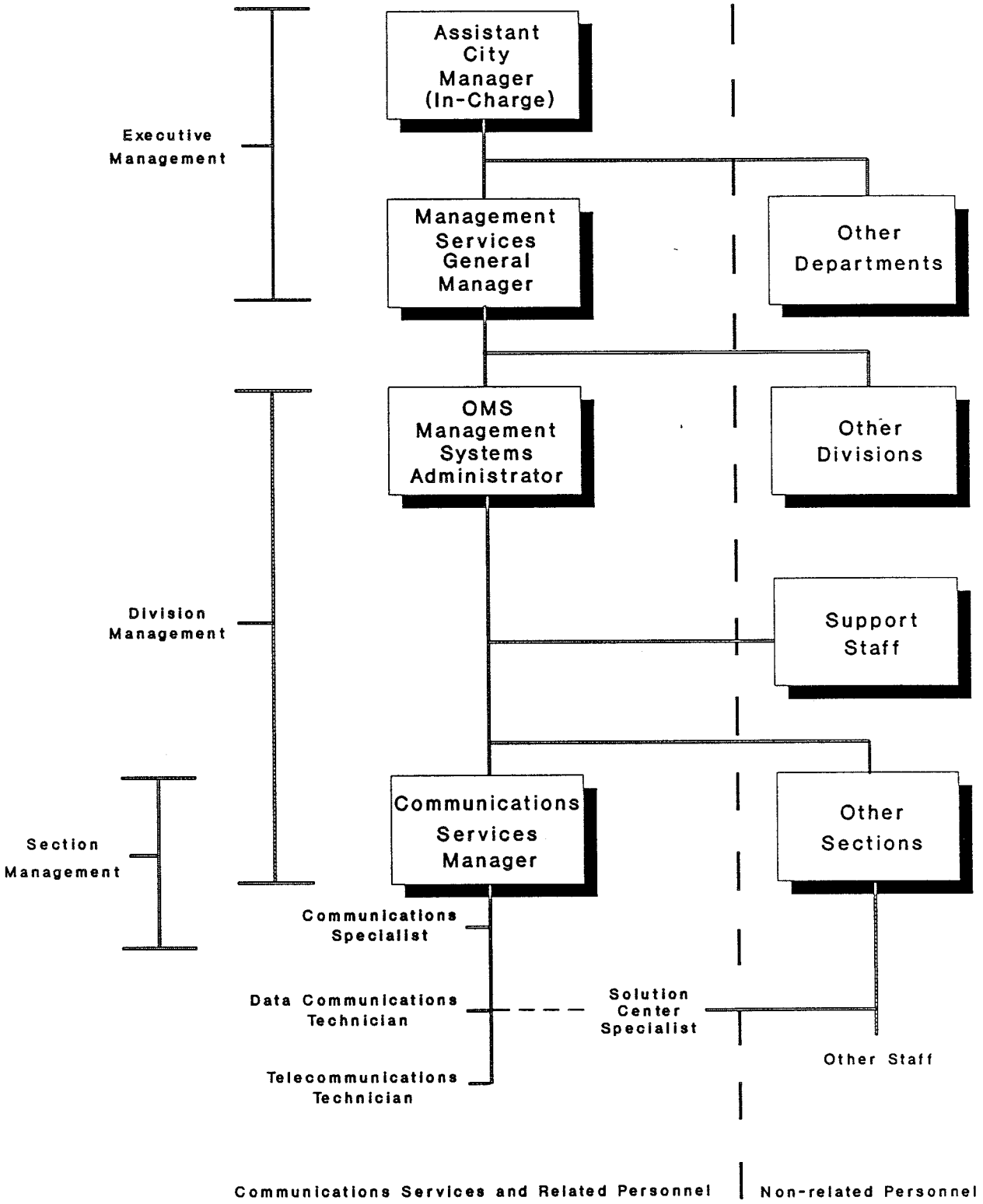
19. Management agrees. (See Attachment 8.)

ATTACHMENTS

PRIORITY CLASSIFICATION	DESCRIPTION
1	Fraudulent practices or other serious violations are being or have been committed resulting in significant financial or equivalent non-financial losses to the City.
2	The potential for incurring significant financial or equivalent non-financial losses exists.
3	Administrative, operational, or programmatic process can be improved.

DEFINITIONS OF PRIORITY CLASSIFICATIONS FOR AUDIT RECOMMENDATIONS

Attachment 1



ORGANIZATION CHART
OFFICE OF MANAGEMENT SYSTEMS
(Detailing Communications Services and Related Personnel Germane to this Report)

Attachment 2

John Barto
Police Officer

Cyndi Coniam
Parks Management Analyst

Tim Connor
Facilities Planner

Tim Coppock
Data Communications Technician

Page Decker
Police Captain

Jeff Denning
Management Systems Administrator

Karen Donoghue
Communications Services Manager

Al Dreska
Project Management Administrator

Bill Ensign
Parks Director

Larry Franklin
Purchasing Manager

Richard Garnett
City Attorney

Carder Hunt
Management Services General Manager

Robert Huston
Parts Room Supervisor

Connie James
Human Resources Manager

Perry Lank
Stock Clerk

Rudy Martinez
Fleet Management Director

Keven Mattingly
Police Sergeant

Dale Metz
Engineering Technician III

Phil Murphy
Lead Stock Clerk

Jim Pyatt
Telecommunications Technician

Teri Sassone
Fleet Systems Specialist

Jason Song
Solution Center Specialist

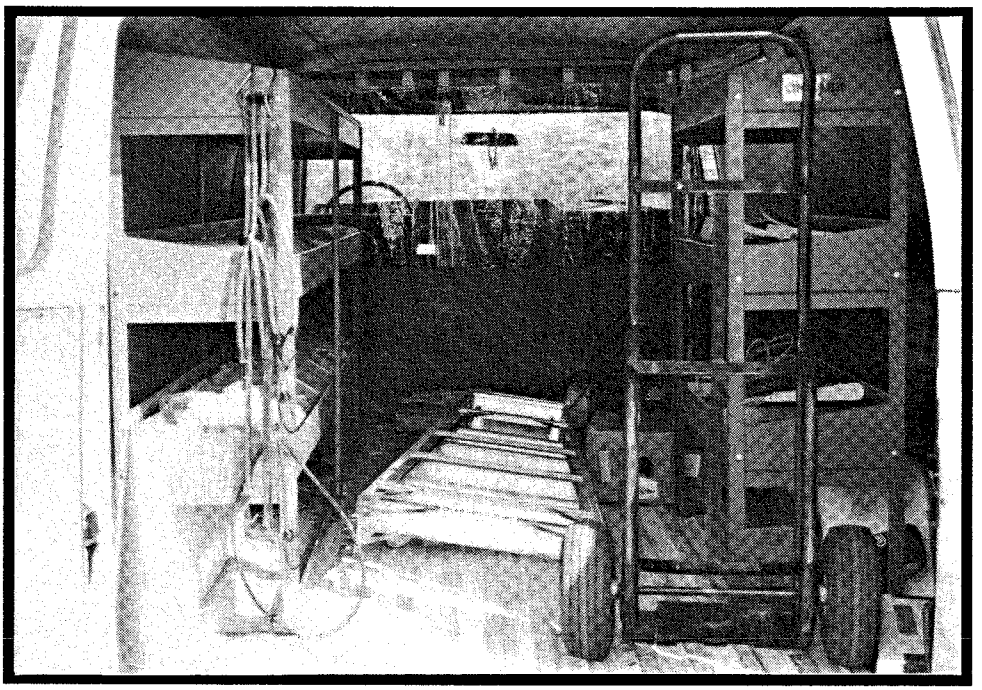
Sandy Spain
Purchasing Director

Shannon Tolle
Communications Specialist

Lynn Wise White
Processing Manager

PRINCIPLE
CITY EMPLOYEE
INTERVIEW SCHEDULE
(Report No. 9005)

Attachment
3



(Storage bins in van allow for easy access to and proper storage of equipment and tools.)

(Stationwagon accomodations are limited.)

PHOTOS OF EQUIPMENT LOCATED IN OMS VEHICLES

Attachment 4

RECOMMENDATIONS RELATED TO A
DATA ADMINISTRATION FUNCTION
(Report No. 8905)

Attachment
5

RECOMMENDATION NUMBER	DISCUSSION RELATED TO FINDINGS (Page Numbers)	MANAGEMENT RESPONSE		IMPLEMENTATION STATUS		RECOMMENDATION (AND POTENTIAL FINANCIAL IMPACT SUMMARY)
		AGREE	DISAGREE	UNDERWAY	PLANNED	
5	8,9	X		X		The General (Management) Services General Manager should initiate procedures whereby all pertinent ordinance changes are reviewed by OMS staff before their acceptance to determine if any City automated system is affected. The General (Management) Services General Manager should also work with the Intergovernmental Relations officer to establish a process to evaluate all pending legislation to determine its effect on City automated systems. (Improved use of staff resources and time.)
6	11-13	X	X		FY 91-92	**The General (Management) Services General Manager should instruct the Management Systems Administrator to develop a comprehensive budget request that establishes a separate, consolidated data administrator (DA) function that encompasses database administration, quality assurance, and security (both data and physical). This function should have understood and recognized lines of authority. The following recommendations should then be implemented:**
6a	13,14	X			+	**The DA should review and upgrade procedures to control access to the production environment. These controls should be established outside the authority of the Systems Development Section.**
6b	14,15		X			**The DA should reassess the physical security afforded the computer facilities. Procedures should be modified to routinely change the combination locks and to change the locks when someone with knowledge of the combinations leaves the Division. The dates of the combination changes should be retained.**
6c	15	X	X	X		**The DA should request Human Resource personnel to reclassify all positions within OMS as "sensitive" requiring security clearance.**
6d	16	X		X		**The DA should initiate a project to upgrade software security capabilities. Passwords should be required to be changed and should be masked when exhibited on the screen. The initial request for access should be retained.**
6e	16-18	X	X	X		**The DA should begin a project to centralize the security monitoring function. This monitoring should include the physical security afforded the computer room as well as Napper, user security tables, data file security and program security. (Costs related to professional positions added; Savings realized through more efficient use of data and equipment, improved security, and better quality control.)**

RECOMMENDATIONS RELATED TO ESTABLISHING CITY POLICIES RELATED TO CONTROLLING (MICRO) COMPUTER SOFTWARE (Report No. 8905)

Attachment 6

RECOMMENDATION NUMBER	DISCUSSION RELATED TO FINDINGS (Page Numbers)	MANAGEMENT RESPONSE		IMPLEMENTATION STATUS		RECOMMENDATION (AND POTENTIAL FINANCIAL IMPACT SUMMARY)
		AGREE	DISAGREE	UNDERWAY	PLANNED	
1	5	X		X		The General (Management) Services General Manager should develop an Administrative Regulation for City Manager signature that establishes a Citywide policy making each employee aware of his or her responsibilities to protect all City automated systems. Under such a rule, each user should be required to execute a formal request for access to the City's automated data files which would clarify the user's responsibility. (Unknown. Increased awareness realized.)
2	5,6	X		X		The General (Management) Services General Manager should develop an Administrative Regulation for City Manager signature that states that the City complies with all copyright laws on the use of microcomputer software. Each software user should be required to sign an agreement that he or she is aware of the City's policies and agrees to uphold those policies. (Copyright infringements can be up to $50,000 per occurrence.)
3	7	X		"10-90"		The Purchasing Director should revise the formalized Purchasing Guide to notify users that OMS concurrence is required on all computer hardware and software purchases. At a minimum, the Purchasing Guide should reference Administrative Regulation 221 that requires OMS concurrence on computer equipment purchases. (Employee efficiency improved.)
4	7,8	X	X		FY 91-92	The Management Systems Administrator should develop and publish standard specifications for PC workstations. The specifications should include the required components of the standard workstation configuration as they should be described on the Purchase Requisition, including specific contract number(s), if any exist, and the City's authorized vendor for each component. The Management Systems Administrator should establish criteria for granting variances for those standards subject to management approval. (Unknown. Time and process savings likely.)

+ Response does not indicate when corrective action will be taken.

CHARGE-BACK BILLING STRUCTURE: COVERED AND UNCOVERED COSTS

Attachment
7

(Management responses follow this page.)

MANAGEMENT RESPONSES

Attachment
8

December 28, 1990

TO: Michael L. Ashcraft, City Auditor

FROM: Carder Hunt, Management Services General Manager

RESPONSES TO OMS AUDIT NO. 9005

You will find enclosed management responses to the recommendations contained in your audit of The Office of Management Systems and Related Areas (Report No. 9005).

Our responses indicate that management generally agrees with your recommendations and we are in the process of developing additional action plans to ensure the timely completion of all items.

Please do not hesitate to contact me if you have any questions about these responses.

OFFICE OF MANAGEMENT SYSTEMS
COMMUNICATION SERVICES - INTERNAL CONTROLS
CITY AUDIT REPORT NUMBER 9005

Management Responses to Recommendations

1. **The Management Systems Administrator should work with the Communications Services Manager to define and classify, in writing, inventory management parameters for equipment, supplies, and tools. These parameters should specify:**

   a. **The types of controls needed for each inventory item;**

   b. **The duties and responsibilities of all staff having custody of inventory;**

   c. **Reorder and disposal procedures for all commodities;**

   d. **Supply access procedures including the segregation of contractor and OMS work areas;**

   e. **Housekeeping and record-keeping standards including the branding of inventory;**

   f. **Tool assignments and uses which include the reporting of potential thefts to OMS management and Risk Management Personnel.**

A. Management Generally Agrees

Management generally agrees that such parameters are needed for specific areas.

Disposal procedures for surplus property currently exist in the City as stated in the Procurement Code. Management agrees that internal policies should be established to periodically review surplus equipment and dispose of them when they no longer have a useful purpose to the City.

B. Actions Taken

- On October 22nd, OMS prepared an action plan identifying what needed to be accomplished in respect to improved inventory controls. As of November 12th, the following objectives were accomplished:

  - An inventory was completed for all commodities in service vehicles, storage closets, storage rooms, and staging facilities. In this connection, a manual inventory has been established for all commodities. Excepting computer equipment, inventories on the second floor storage facility has not been a part of this process.

- All tools, whether special or those assigned to technicians, have been identified, inventoried, and signed out by technicians.

- A procedure for the type of inventory control has been established although it has not been formally documented.

- Staff has consulted Fleet Management for ideas on improved inventory management and has applied most of their suggestions to the OMS environment.

- The maintenance contractor, BPS, has identified his space needs as part of a planning process to separate City and contractor shared work space.

- The second floor storage facility was inventoried to classify equipment as:

  - Equipment requiring security and needed to remain in OMS.

  - Lesser security items that are not needed on a regular basis.

  - Those items that could be declared surplus.

  Surplus items have been removed giving staff a better opportunity to assess security needs and rearrange storage to accomplish the segregation of contractor and OMS inventory.

- Initiated action to reclassify the position of Telecommunications Technician to a Communications Assistant having responsibility for inventory management.

C. **Actions Planned**

- Develop an employee handbook which will include the duties and responsibilities of staff members having custody of inventory.

- Recruit for the Communications Assistant position. Advertising for position began December 2nd.

- Review storage needs and reorganize accordingly. Includes moving some inventories to the purchasing warehouse, constructing security cages, relocating the contractor, and establishing a new work environment for OMS technicians.

D. **Additional Comments**

- The findings infer the City is paying maintenance on new computer printers that have not been placed in service. Maintenance is not applied until either warranties expire or the equipment is placed in service. The only significant computer equipment excess noted is in printer interfaces which was the result of an 1986 overestimation of needs.

2. **The Management Systems Administrator should oversee the inventorying of all requisite commodities. He should establish:**

   a. A program to re-inventory selected items annually; and,

   b. (Establish) realistic and measurable inventory (back-up) limits to reduce unnecessary excesses.

A. **Management Generally Agrees**

OMS already conducts an annual physical inventory of computer terminal and printer assets valued at $3,900,000.

Management agrees the inventory of telephones should be improved. Telephones will be included in the automated inventory system.

Management agrees that commodities should be physically inventoried on a periodic basis and will include that as part of the duties and responsibilities of the Communication Assistant position.

B. **Actions Taken**

- A manual inventory procedure was established for all supplies and commodities used by Communications Services technical staff.
- A physical inventory of commodities and supplies was completed by November 5th.
- The existing inventory system has been reviewed to determine its suitability to accommodate telephones and other ancillary computer equipment.
- Reclassified an existing position to a Communications Assistant responsible for monitoring inventories. Recruitment began December 2nd.

C. **Actions Planned**

- Plan a organization-wide physical inventory of all telephone and ancillary computer support equipment. Includes applying City property tags to each item included. OMS plans to recruit student workers to participate in this extensive effort planned for January, 1991.
- Generate monthly reports to Financial Services and cost center pursuant to telephone use and the number of instruments assigned to each center. See also recommendation number 14.

D. **Additional Comments**

None.

3. The Management Systems Administrator should work with the Communications Services Manager to define, in writing, computer equipment inventory standards. These requirements should include procedures for adding, relocating, and deleting items from the work order inventory system.

A. **Management Generally Agrees**

Procedures for adding, relocating, and deleting items from the work order inventory system already exist, yet they are not documented in writing.

B. **Actions Taken**

- Initiated recruitment of a Communications Assistant to assume management of the work order and inventory system.

C. **Planned Action**

- Develop written procedures and standards during the training process of the new position.

D. **Additional Comments**

None.

4. The Management Services General Manager should develop an Administrative Regulation for City Manager signature that restricts City employee movement of computer equipment without direct OMS approval.

A. **Management Generally Agrees**

Management generally agrees that such an administrative policy would contribute to increased management over inventory movement and reduce the potential for equipment damage. Administrative Regulation should also contain provisions for the movement of telephones in accordance with Audit recommendation 6.

B. **Actions Taken**

- Discussed the need for an Administrative Regulation with the office responsible for the coordination and administration of AR's.

C. **Actions Planned**

- Develop and coordinate an approved Administrative Regulation.
- Disseminate approved regulation throughout organization.

D. **Additional Comments**

None.

5. The Management Systems Administrator should work with the Communications Services Manager to define, in writing, telephone equipment inventory and billing practices. These requirements should include procedures for adding, relocating, and deleting items from the work order system and Call Detail Recording systems and the monthly billing reports.

A. **Management Generally Agrees**

Management generally agrees that the telephone inventory should be added to the present inventory and work order system, and the present system should be documented.

Management further believes the procedures for telephone reporting on the Call Detail Report should be modified. Details pursuant to this activity are presented in Audit recommendation 13.

B. **Actions Taken**

- Initiated discussions with programming staff to determine the magnitude of a program modification effort.
- Initiated discussions to plan and coordinate a physical inventory of all City telephone and ancillary computer equipment (line drivers and computer keyboards).

C. **Actions Planned**

- Define inventory program modifications and program system as needed to accomplish objectives.
- Conduct a physical inventory of telephones and apply City tags to same.
- Update telephone inventory in the automated inventory system.
- Schedule annual physical inventory activities to verify and validate inventory. To be coordinated with budget process.

D. **Additional Comments**

- None.

6. The Management Services General Manager should develop an Administrative Regulation for City Manager signature that restricts City employee movement of telephones without direct OMS approval.

A. **Management Generally Agrees**

Management generally agrees that such an administrative policy would contribute to increased management over inventory movement and reduce the potential for equipment damage.

B. **Action Taken**

- See Audit recommendation number 4.

C. **Actions Planned**

- See Audit recommendation number 4.

D. **Additional Comments**

None.

7a. The Management Systems Administrator should order the contractor (BPS) to develop and implement a comprehensive preventive maintenance program on all covered equipment.

A. **Management Generally Agrees**

Management agrees that preventive maintenance is an important function.

The contractor, BPS, is complying with the service agreement in respect to preventive maintenance. In accordance with the contract, preventive maintenance is performed on all units that are brought to the service center for repair. The contractor uses a service procedure for each type of equipment serviced. In addition to diagnosing and repairing, the procedure includes cleaning, lubricating, inspecting, and testing.

The City's intent with BPS does not include requirements for BPS to perform preventive maintenance (cleaning, lubricating, and inspecting) on computer equipment in customer work areas. All maintenance is required to be performed in a central area in OMS.

B. **Actions Taken**

None.

C. **Actions Planned**

None.

* D. **Additional Comments**

- The findings inaccurately indicate BPS has limited the scope of the contract because no one from OMS has demanded the preventive maintenance program be implemented. Maintenance is performed at the time of repair, per contract.

- The BPS service technician indicated there may have been a misunderstanding during his interview with the Auditor's office. The finding noted that the contractor indicated 20% of the reported printer repairs could have been avoided under an adequate preventive maintenance program. The contractor indicates he thought he communicated that 20% of the repairs made to printers involved cleaning only.

* CITY AUDITOR COMMENT(S)

In an attempt to clarify matters, the BPS technician was asked a second time and reiterated that in his opinion 20 percent of the reported printer failures could be avoided with a preventive maintenance program. Further, he stated that, for the month of November, approximately 50 percent of the "repairs" he performed needed parts while the other 50 percent needed only cleaning or adjustments.

7b. The Management Systems Administrator should require the Communications Services Manager to monitor the status of all repairs presented to the BPS technician as well as the operation of the preventive maintenance program.

A. **Management Generally Agrees**

The contract with BPS specifies satisfactory service and twenty-four hour turnaround. Turnaround times were specified to minimize the amount of terminal stock retained by OMS as service spares. BPS maintains a detailed computer record containing equipment identification, repair type, and service dates. These are available upon request. The service record of BPS has been exemplary.

B. **Actions Taken**

None.

C. **Actions Planned**

None.

D. **Additional Comments**

- The findings indicate that the types of repairs needed and performed are tracked informally by the on-site BPS technician in a personal notebook, and are not shared with OMS staff because they have never been asked for reports.
  - The personal notebook is a daily log of activity by the technician, not a repair log.
  - A repair log is maintained on a computer.

* CITY AUDITOR COMMENT(S)

The notebook is a daily log of repairs and repairs were not computerized until after the close of audit fieldwork.

7c. The Management Systems Administrator should review the charging system and costs associated with the contract (with BPS) and determine if other options may be more cost beneficial. (e.g. - rates based on work completed or some type of cost plus arrangement or the efficiency of hiring permanent staff to perform chores with the City providing supplied). This analysis should be submitted to the Management and Budget Division for confirmation and consideration.

A. **Management Generally Agrees**

Management agrees that an analysis is beneficial to determine the value of alternatives. Such an analysis was performed in 1989 which led to the contract with BPS and the resultant annual savings of approximately $231,000.

B. **Actions Taken**

- A 1989 analysis was conducted to determine if a flat rate contract was more or less expensive than a time and material type of equipment repair. Using the former contractor, the annual costs were estimated at $230,000 which was an approximate annual cost reduction of $120,000.

- The 1989 analysis included determining the savings and benefit of performing in-house maintenance. Staff estimated that the cost of added personnel and spare equipment parts would approach $120,000 annually.

- A competitive bid was let in 1989 and awarded to BPS. Fiscal 1990/91 annual costs are estimated at $117,000.

C. **Actions Planned**

- Future cost/benefit analysis of alternatives will be conducted on a periodic basis.

D. **Additional Comments**

- An advantage of using a contractor is continuous service in the event the assigned technician is absent or resigns as well as the availability of additional resources and expertise, should it be needed.

8. The Management Services General Manager and the Management Systems Administrator should reconsider their opposition to the need for a Data Administration function, including a Security Officer, as outlined in recommendation 6 through 6e of Report No. 8905 on OMS General Controls.

A. **Management Generally Agrees**

Management agrees that a data administration function would be an important component of an office automation system of the size and complexity of the City of Scottsdale's. Management also agrees that physical security is important. That responsibility currently rests with Director of Computer Operations, which is a senior level management position within OMS. A separate security officer position may be requested at some point in the future if workload and other security related functions demand it.

B. **Actions Taken**

- A DBA position was identified to the Office of Management and Budget in the five year budget forecast report.
- A DBA position was part of the consultant's recommendation contained in the Five Year Management Plan.

C. **Actions Planned**

- Prepare a formal DBA position request as part of the 1991-92 budget process.
- Assess the telephone system security risks identified in the audit report and eliminate or minimize same.

D. **Additional Comments**

None.

9. **The Management Systems Administrator (in lieu of a Security Officer) should work with the Communications Services Manager to develop, in writing, a cross-training program along with system back-up and access control procedures for the Call Detail Recording and Rolm systems as needed. This should include password and ID controls, physical security, contingency testing , and supervision requirements for both systems as well as an uninterrupted power supply for the Call Detail Recording system. Further, she should establish supervisory controls for as well as access (update) restrictions relative to the work order system.**

A. **Management Generally Agrees**

Management agrees that there is a need to develop documented back-up procedures for the Call Detail Report and the Rolm system, and install an Uninterrupted Power Supply (UPS) for the Call Detail Reporting system. The UPS is a budgeted item in the current budget.

Management agrees there should be restrictions to the work order system data bases. Currently, only a few selected staff members have access to data bases. Access to the work order system for OMS helpline staff is required to generate service requests.

Management agrees that cross-training is important. Cross training is done continuously. Given the limited number of employees involved in this area (3), written procedures are less useful than good communications.

B. **Actions Taken**

- Budgeted funds to purchase a UPS device in the current year's budget. Staff will place a purchase order for required hardware before the end of December, 1990.

C. **Actions Planned**

- Management will prepare a work plan to develop written procedures for system back-up and access control. Plan will contain specific items of activity, responsibility, and time frames.

D. **Additional Comments**

- The Audit findings indicate vendor back-up procedures are complicated as a result of a system not large enough to accommodate the routine. Instead, the configuration of the system is such that the changes on one computer processor is transferred to the second processor as a back-up procedure.

- The Communications Specialist, as a matter of procedure, backs-up affected software files following modification. Routine back-ups of the system software are done daily. This officially adopted procedure has been used since the installation of the ROLM system in 1983.

10. The Management Systems Administrator (in lieu of a Security Officer) should work with the Communications Services Manager to:

a. establish procedures for authorizing user dial-up access clearance, and,

b. develop and maintain an inventory of these authorized users as well as procedures for notifying them of access control changes.

A. **Management Generally Agrees**

Management generally agrees with the recommendation as such procedures and inventories are a requirement of the effective installation of the Dial-in Security System referenced in the following recommendation.

B. **Action Taken**

- Implemented a work plan to acquire a dial-in security system. Bids are currently being prepared by qualifying vendors. Award is expected in January, 1991.

C. **Action Planned**

- Recommendations of this audit will be included in the installation of the Dial-in Security System. A work plan for "Phase II" of the Dial-in Security System will be prepared by the end of January, 1991.

D. **Additional Comments**

None.

11. The System Support Manager should continue the dial-in security project until its implementation. (Repeat of Recommendation Number 8 of Audit Report 8905)

A. **Management Agrees**

Management intends to complete this project.

B. **Actions Taken**

- A project to evaluate and acquire a dial-up security system began in March, 1990.
- Funds for this project were encumbered from the FY 90/91 Budget.

C. **Actions Planned**

- Project will continue as planned.
- Develop the work plans for Phase II, system installation and implementation, following contract award scheduled for January, 1991.

D. **Additional Comments**

None.

12. The Management Systems Administrator, working in conjunction with the Purchasing Director, should institute a program that tracks the acquisition and use of all City owned proprietary and copyrighted software. This program should include a mechanism for inventorying software periodically and reporting potential abuses to responsible managers. (This program could be incorporated in with the existing work order system employed by Communications Services).

A. **Management Generally Agrees**

Management generally agrees that software acquisitions should be tracked and maintained in an inventory system. A system already exists in that no purchases are permitted without OMS concurrence. With this manual system, management maintains a record of purchases by retaining a copy of the PO Requisition. An automated system would be a more effective control measure although the existing work order system may not necessarily be the appropriate automated tracking mechanism for copyrighted or proprietary software.

Management agrees that mechanisms need to be put in place to discourage the unlawful replication and distribution of copyrighted and proprietary software. Management can not assume responsibility for the actions of City employees who illicitly duplicate software.

B. **Actions Taken**

- Management has developed an AR to notify City employees of their responsibilities towards protecting copyrighted software entrusted to them. This includes a form for their personal records and an acknowledgment of their understanding of their responsibilities.

- A software program has been ordered that will produce an accurate directory of programs retained on personal computer hard disks. This will assist staff in producing a verifiable inventory of software contained on computer hard disk drives, but will not be useful for software contained on "floppy" diskettes.

C. **Actions Planned**

- Design a procedure to ensure effective controls are in place to manage the acquisition of new software purchases. Includes evaluating the potential of including software assets on the present inventory system. The progress of this activity will be dependent upon staff availability and conflicting priorities.

D. **Additional Comments**

None.

13. The Management Systems Administrator (in lieu of a Security Officer) should develop a program covering PC software usage in the City particularly as it relates to security issues and copyright laws.

A. **Management Agrees**

B. **Actions Taken**

- OMS initiated a project on November 5, 1990 (circa) to prepare Administrative Regulations that will satisfy the recommendation of this Report. The Administrative Regulations are designed to:
  - Increase employee awareness of their responsibility to protect the City's automated systems.
  - Define the City's Software Protection Policy and holds employees accountable for compliance therewith.
- Subject Administrative Regulations being circulated for City approvals.

C. **Actions Planned**

- Administration and execution of approved Administrative Regulations in accordance with activities outlined in a work plan. Expect completion of both work plans by March 8, 1991.

D. **Additional Comments**

None.

14. **The Management Systems Administrator should direct the Communications Services Manager to restructure long distance billing procedures to capture and report all requisite charges.**

A. **Management Generally Agrees**

All charges for long distance usage are currently captured and reported to Divisional directors and/or Accounting through two separate reporting systems:

- The City has no control over how billing statements from its long distance carriers (ATT, MCI, LDL) are structured. Third party or collect calls to the City require manual posting from carriers' billings to a format usable by the City's Accounting Division.

- Long distance calls made from City telephones are recorded on the Call Detail Report and sent to all directors.

Management agrees that the two separate systems can be restructured to be combined into a single system making additional information available to Division managers and directors.

B. **Actions Taken**

- Staff has discussed alternatives and have determined that, through computer programming, an improved method can be implemented.

C. **Actions Planned**

- Work Plan to be implemented in concert with existing work priorities.

D. **Additional Comments**

None.

15. The Management Systems Administrator should direct the Communications Services Manager to develop a procedure to control the unrestricted charges associated with collect, third party, cellular connections and select long distance rotary lines. These procedures should be formally communicated to all City personnel, and may need to be promulgated in the form of an Administrative Regulation.

A. **Management Generally Agrees**

Management generally agrees that a procedure needs to be developed to ensure Division managers and directors ~~need to be~~ apprised of collect and third party calls charged to their cost centers.

Management believes that Division managers and directors must assume responsibility for controlling collect and third party calls. They need to be equipped with billing information to make appropriate decisions. Planned OMS action will provide this information.

Management agrees that long distance telephone charges made to cellular telephones should have improved accounting.

B. **Action Taken**

- Staff has discussed alternatives and have determined that, through computer programming, an improved method can be implemented. No other action has occurred. Tied to action taken for previous recommendation.

C. **Action Planned**

- Assess ability to include capturing the long distance cellular code in the existing Call Detail System.
- Work Plan to be implemented in concert with existing work priorities.

D. **Additional Comments**

None.

ınt Systems Administrator should work with the ›ns Services Manager to define and classify, in writing, ıanagement standards. These guidelines should include standards for tracking and reporting staff time and job

ıt Generally Agrees

ıt generally agrees that it would be helpful to track work ;ignments and the time taken on each work order. Management :iate a process through the Office of Management and Budget ıine the feasibility of work standards.

;tandards already exist.

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.anned

ıte a process through the Office of Management and Budget to ıine the feasibility of work standards and establish .ines for same if deemed appropriate.

ıl Comments

›rk order system was developed to establish a unified lure to promote efficient and effective service. Without 'stem, technicians would be unable to independently ıine pending requests.

:ary and staffing determinations are made under the guidance .rection of the Office of Management and Budget whose .on includes establishing standards for position :ication. Such efforts minimize or eliminate haphazard :ing.

17. **The Management Systems Administrator, in consultation with the Management Services General Manager and the Management and Budget Division, should restructure the existing charge-back system to more accurately and fully capture the cost of service. The restructured system should be designed to encourage greater individual departmental and Communications Services accountability and control over costs and services. The Administrator should investigate establishing a similar system for controlling data communications costs.**

A. **Management Generally Agrees**

Management generally agrees that such controls and charge-back accommodations should be established as such direction is given by senior City management. The system that is currently used has been established at the direction of senior City management with the guidance and assistance of the Financial Services Department. The present practice balances cost management with the efficient use of resources.

Before any restructuring occurs, management needs to assess the value, payback, and cost of establishing charge-back systems. This would include additional support staff, employee overhead for record keeping, and the development or acquisition of technology to track data.

B. **Actions Taken**

- In late 1989, OMS initiated a project to begin identifying elements that comprise the total cost of OMS service. The project was deferred as a result of other organizational priorities. No other action has occurred.

C. **Actions Planned**

- Management will initiate a project to research the feasibility, costs, and overall organizational value in establishing a comprehensive cost charge-back upon direction provided by senior City management.

D. **Additional Comments**

- Data communications costs are included in the $52 monthly service charge applied to each installed telephone throughout the organization.

- The Communication Services operating budget covers telephone commodities, wire, cabling, and maintenance material. The account does not pay for major divisional or departmental moves, or major projects that include wiring, installation of conduits, wiring blocks, etc.

- The monthly telephone charge covers Rolm maintenance costs, the US West leased telephone lines to effect data and voice communication between the downtown and Corporation Yard City facilities, communications upgrades, and expansion.

- Managers have no control or influence on the maintenance charges as such expense does not cover equipment damage.

18. The Management Systems Administrator should:

a. Establish a written policy governing the use of City vehicles and communicate that policy to all affected staff.

b. Institute a system which tracks the use of each vehicle and monitors their fuel consumption.

A. **Management Generally Agrees**

Management agrees that a written policy governing the use of City vehicles should be written. Fuel consumption is already monitored by Fleet Management. Management disagrees that a system should be instituted to track vehicle usage as there appears to be no current justification to impose controls beyond those that now exist.

B. **Action Taken**

- On October 22, 1990, OMS identified opportunities to minimize potential security risks. Included among the activities was the development of an employee handbook that would include policies addressing the use of City vehicles.

C. **Actions Planned**

- Write and publish the employee handbook. Schedules have not been determined although this activity is a planned activity.

D. **Additional Comments**

None.

19. The Police Department's Patrol Bureau Commander (Captain) should direct the Special Operations Sergeant to post authorization and restriction requirements concerning the use of vehicle fluids at the Police/Court station.

A. **Management Agrees**

B. **Action Taken**

- The Police Patrol Bureau Commander has directed the Special Operations Sergeant to have appropriate notification prepared and posted. Project expected complete by December 31, 1990.

C. **Actions Planned**

None.

D. **Additional Comments**

None.

(1. October 22, 1990 memo titled OMS Security Issues.

2. October 26, 1990 memo titled Inventory Controls.

3. October 30, 1990 memo titled OMS Inventory Project - Status Report)

MANAGEMENT SERVICES' DOCUMENTATION

Attachment 9

October 22, 1990

TO: Carder Hunt, Management Services General Manager

FROM: Jeff Denning, Management Systems Administrator

OMS SECURITY ISSUES

We have been examining opportunities for increased security in OMS with a focus on the Communications Services area. The following summarizes threats and opportunities to OMS security.

Threats

- Service technicians are not issued a standard inventory of tools. This makes it difficult to identify lost or stolen tools and increases the difficulty in distinguishing between City property or tools that are the personal property of the technicians.

- Specialty tools, such as technical monitoring devices and computer cleaning equipment, are not inventoried, secured, or signed out to technicians for periodic use.

- Service spare parts are stored in a partially secured area. This is due to a lack of adequate storage facilities. Storage shelving has been provided to maximize the efficiency of the available space. Frequently, however, computer equipment must be stored on the floor which poses a safety hazard and promotes the potential for equipment damage.

- The equipment repair contractor, BPS, works in the technical work area which is also used for terminal staging and telephone repair. This is also due to a lack space.

- An automated inventory system does not carry the serial numbers of components housed within computer terminals. Includes disk drives, memory modules, and communications boards.

- The automated inventory system does not include telephone equipment. While an existing OMS manual inventory system keeps track of the number of telephones in each City division, serial numbers are no longer recorded. This practice was abandoned following the 1989 reduction in Communications Services staff.

- There is no inventory on significant equipment and components stored in the technical work areas. The automated inventory keeps track of major equipment, such as terminals and printers, that are kept in the storage areas. There is no inventory control on significant components, such as spare disk drives, communications control boards, memory boards, or cables.

- Policies regarding personal use of City equipment has not been effectively communicated to service technicians.

- Equipment and inventory stored in service vehicles is not inventoried.

Opportunities

- Tools and equipment will be inventoried and subjected to improved management. Includes tools issued to technicians, specialty tools, and inventory kept in work areas and service vehicles. This project will be initiated this week.

- Determine the feasibility of maintaining an active inventory of all equipment and components in the technicians' work room, storage area, and service vehicles. Includes sign-in and sign-out procedures, automated inventory, and determining a level where the cost of inventory management exceeds the value of what components are being managed.

- Identify space requirements and the cost to establish a secured equipment storage facility. Includes identifying a separate work space for the equipment repair contractor, BPS. Staff has already done some of this while working with the City's Facilities Planners.

- Establish an employee handbook for service technicians regarding City or departmental policy as it pertains to using City vehicles, equipment, and tools.

MEMORANDUM

DATE: October 26, 1990

TO: Jeff Denning, Management Systems Administrator

FROM: Carder Hunt, General Manager, Management Services Department

SUBJECT: Inventory Controls

Jeff, I have reviewed your memorandum dated October 22, 1990 titled "OMS Security Issues". I concur with your analysis of the "threats", and request that you immediately begin to implement those actions identified under "opportunities". I believe that the concept of an active inventory for all equipment and components in the technician's workroom, storage area and service vehicles is important, and ask that you include that in your implementation.

Additionally, I reviewed your memorandum of October 24, 1990 titled "Computer Equipment Physical Inventory", and concur with your analysis of the need for an annual physical inventory to validate and update inventory records. Please proceed with this task.

I would appreciate your sending me an immediate status report on these items, and a weekly update on your progress until implementation is completed. I wish to emphasize the importance of completing these management improvements in as timely a manner as possible.

CH:la

October 30, 1990

TO: Carder Hunt, Management Services General Manager

FROM: Jeff Denning, Management Systems Administrator

OMS INVENTORY PROJECT - STATUS REPORT

OMS is taking a twofold approach in improving management controls over tools, supplies, and inventories in the Communication Services area of OMS:

- **Operational inventory management** - involves the immediate sorting, organizing, identifying, counting, and establishing inventory controls for all tools, supplies, and computer equipment.

- **Organizational (OMS) development of effective management controls** - involves defining a strategical plan for inventory management on an on-going basis with consideration given to manual and automated controls, sign-in and sign-out procedures, written policies and procedures, and the establishment of audit trails to ensure inventory and property integrity.

In connection with my recent memos on OMS Security Issues, the following summarizes the status of activity in respect to opportunities outlined in that memo:

- **Tool and equipment Inventory** - The attached list, entitled "Tool and Equipment Inventory", identifies all the tasks associated with this portion of the recommendation and provides as current status of progress. The "x" indicates that a task is complete.

- **Feasibility of maintaining active inventory** - the feasibility analysis is complete. All items will be inventoried. The issue in respect to this opportunity was the value of an automated inventory system. Completed action on this opportunity includes:

  - Defined the type of inventory that should be included in a manual or automated inventory, and those inventoried items that need to be kept on a "list" only.

  - Made arrangements to visit with Fleet Management on how they management their inventory. Visit pending completion of tool and equipment inventory.

- **Identify space requirements** - have identified all affected areas that need space and the cost associated with preparing a singular secure storage facility. Have since taken all storage needs and segregated into the category of maintenance contractor, immediate needs, and storage of infrequently used stock. We will be examining options, alternatives, and other opportunities in respect to each category.

- **Establish an employee handbook** - have obtained copy of employee handbook of other areas and identified policies and procedures that will be included in the handbook:

  - Assignment of tools to staff.
  - Tool sign-in and sign-out (Specialty tools)
  - Obtaining keys and key sign-out
  - Policies pursuant to the use of City property (tools and equipment)
  - Vehicle usage
  - Inventory management
  - Software inventory
  - Reporting of lost or stolen tools and equipment.

  The process of writing procedures and policies will begin upon the completion of the tool and equipment inventory.

As these projects progress, specific consideration will be given to mitigating the threats identified in my October 22nd memo.

In regards to the Computer Equipment Physical Inventory memo dated October 24th, we do not have dates assigned to those tasks as the tasks associated with the security issues are being given a greater priority.

cc: Karen Donoghue

Status as of 10-30-90

TOOL AND EQUIPMENT INVENTORY

Organize Van:

- [x] Empty of all tools and equipment
- [x] Create Stock List
- [x] Restock per Stock List
- [x] Label locations for all stock items
- [ ] Initiate Inventory Cards on Van
- [x] Document Stock List

Organize Station Wagon:

- [x] Empty of all tools and equipment
- [ ] Create Stock List
- [ ] Restock per Stock List
- [ ] Organize stock storage
- [ ] Initiate Inventory Cards on Station Wagon
- [ ] Document Stock List

Organize 1st Floor Storage Closet:

- [x] Empty of all tools, equipment and supplies
- [x] Clean closet
- [x] Organize and replace items
- [x] Label storage containers and locations
- [ ] Inventory items
- [ ] Create an Inventory Control Card for each tool and supply item

Organize 1st Floor Staging Area:

- [ ] Clean and organize storage shelves
- [ ] Clean and organize storage cabinets
- [ ] Label storage containers and locations
- [ ] Inventory Items
- [ ] Create an Inventory Control Card for each item

Organize 2nd Floor Storage Areas:

- [ ] Clean and organize storage shelves- outer storage area
- [ ] Clean and organize storage cabinets
- [ ] Clean and organize storage shelves- inner storage area
- [ ] Label storage containers and locations
- [ ] Inventory Items
- [ ] Create an Inventory Control Card for each item

Inventory Keys:

- [x] Collect all keys used by staff
- [ ] Identify and mark all keys
- [ ] Assign keys to appropriate staff members
- [ ] Create centralized key storage for non-assigned keys
- [ ] Generate complete listing of keys and assignments
- [ ] File keys assignments in personnel files
- [ ] Submit listing of key assignments to Computer Operations Director
- [ ] Develop key use and sign out policy (See Policy Section)

Inventory/Assign Technician Tools and Equipment:

- [x] Collect all tools and equipment used by technical staff
- [ ] Inventory all items
- [ ] Insure all items requiring City Property Numbers are tagged
- [ ] Insure all items are marked/engraved as City property
- [ ] Develop Tool Assignment Form including policy statement for responsibility and use. Include both employee and supervisor signatures
- [ ] Assign tools to individual technicians and complete Tool Assignment Form for each:
  - [ ] Tim Coppock
  - [ ] Jim Pyatt
  - [ ] Jason Song
  - [ ] Shannon Tolle
- [ ] File Tool Assignment Form in each employee's file

Inventory all PC Components:

- [ ] Create Inventory Control Cards for all computer & printer Components
- [ ] Create Inventory Control Cards for all Communications Services Software